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**ORAL ARGUMENT REQUESTED**

Atochem's invention pertains to the field of chemical "stabilizers" for the manufacture of certain plastic materials. Such stabilizers are added during the plastics manufacturing process in order to improve the color and quality of the resultant plastic products. Atochem's claims are directed to a stabilizer system which includes a particular type of tin-containing chemical called the

"claimed organotin compound" and a sulfur-containing chemical called a "reverse ester." Surprisingly, the inventors of this system found that the addition of the claimed reverse esters to the more expensive claimed organotin compound substantially and synergistically boosted stabilization performance, desirably decreased the amount of organotin compound needed to obtain a satisfactory level of stabilization, and reduced discoloration and viscosity problems. The U.S. Patent and Trademark Office ("PTO"), through its Board of Patent Appeals and Interferences ("Board"), however, held that the claims would have been obvious to a person of ordinary skill in the art at the time of the invention and therefore unpatentable.

Atochem filed this suit under 35 U.S.C. § 145 in order to obtain a *de novo* trial to overturn the decision of the Board on the patentability of Atochem's remarkable plastic stabilizer invention. The Board's decision followed a lengthy *ex parte* proceeding before the PTO in which Atochem's claims to its innovative stabilizer system and its method of use were rejected on various, and to some extent, changing grounds. The sole remaining issue here is whether Atochem's invention is obvious or unobvious from certain prior art references cited by the PTO. Atochem can show through live witnesses and additional evidence at trial that this issue was wrongly decided by the Board and that the Atochem invention is unobvious and patentable.

But in defiance of precedent, as explained below, and to prevent meaningful consideration of the patentability question, the Defendant improperly asks the Court to exclude *all* evidence that might be proffered by Atochem in support of its case, other than what is in the documentary record that was before the Board, and deny Atochem a trial in this case. In short, the Defendant would turn this action under § 145 into a judicial review of the existing record without the opportunity for additional fact finding. But a § 145 action is not simply an appeal. To the contrary, § 145 was

designed to give disappointed patent applicants the opportunity, through live testimony and supplemental evidence, the opportunity to obtain a fresh, independent look at the issues of patentability by a district court. Having chosen this route, Atochem is now entitled to present its case through such additional evidence at trial.

What the Defendant calls Atochem's "failure to obtain administrative review of its new evidence" is a non-sequitur and no obstacle to the introduction of new evidence here. *See* Defendant's Memorandum in Support of Defendant's Motion for Summary Judgment ("Defendant's Memorandum") at 2-3. Indeed, the Defendant fails to explain how Atochem could have possibly introduced live testimonial evidence during the patent prosecution process, including the administrative appeal to the Board, which provides no opportunity for live witnesses. And it fails to explain why the Court should cut off the possibility of live testimony and other new evidence--including additional test results demonstrating the patentability of the claimed invention over prior art stabilizers--that will explain why the Board's decision is wrong. The U.S. Court of Appeals for the Federal Circuit only recently reiterated the availability of trial *de novo* with new evidence in cases such as this. *See Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340 (Fed. Cir. 2000), *petition for cert. filed*, (Apr. 10, 2000) (adopting a liberal approach to the introduction of new evidence in cases involving district court review of Board decisions). There is simply no reason for this Court to issue a blanket prohibition on the introduction of such relevant evidence. And because a *de novo* trial is warranted here, the Court is not constrained to apply a substantial evidence standard to the Board's decision, as the Defendant suggests.

In essence, the Defendant's summary judgment motion is no more than a bold attempt to sidestep the independent review of the Board's decision that § 145 is intended to provide. The Defendant's motion and accompanying papers merely reiterate, and would have this Court blindly adopt, the Board's decision. Atochem respectfully submits that the Court should decline such an approach in this § 145 case.

Moreover, the evidence that is before this Court contradicts the Board's decision and, at a minimum, raises genuine issues of material fact which mandate against summary judgment in favor of the Defendant. The supporting declarations of Drs. Michel Foure and Christopher Bertelo directly refute the factual underpinnings of the Board's determination of obviousness. They also explain why experimental data submitted to the PTO during patent prosecution clearly demonstrated the unexpected superior stabilization results obtained using the claimed composition.

Furthermore, the Bertelo declaration presents *new* test results from a head-to-head comparison of the claimed invention with a prior art stabilizer combination considered by the Board to be the "closest" prior art. This new evidence overwhelmingly demonstrates the claimed invention's unexpected superiority over the prior art. In short, the evidence shows that the claimed invention was far from obvious and is worthy of patent protection. Under these circumstances, summary judgment is inappropriate and should be denied.

## II. BACKGROUND TO THE INVENTION AND THE PATENT APPLICATION IN SUIT

Plaintiff Atochem is a leading chemical manufacturer headquartered in Philadelphia, Pennsylvania. [Foure Declaration ("Foure") (attached as Ex. A) at ¶ 4]. Among its many business activities, Atochem has led the way in developing new products that aid in the processing of certain plastic materials called "poly vinyl halide" (PVH) polymers.<sup>1</sup> [Foure ¶ 4.]

In general, plastic products are manufactured from molten PVH material by an extrusion process. [Foure ¶ 5.] The manufacturing process involves the application of heat, which can degrade the PVH, causing discoloration, brittleness, and other performance deficiencies. [Foure ¶ 5.] To counteract this effect, certain chemicals, called "stabilizers," are added to reduce the heat-induced degradation. [Foure ¶ 6.] The use of stabilizers is essential for the commercial manufacture of usable, high-performance PVH products. [Foure ¶ 6.]

Prior to August 29, 1978,<sup>2</sup> the PVH industry used, among many types of substances, certain chemicals containing tin called "organotin compounds" to stabilize PVH polymers. [Foure ¶¶ 7, 11.] Organotin compounds make up an extremely large class of chemicals, with an almost unlimited number of possible variants. [Foure ¶ 11.] Although the organotin compounds that had been tested

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<sup>1</sup> Poly vinyl chloride, or "PVC," plastics are one type of PVH polymers. PVC plastic products include pipes, house siding, and plastic containers. [Foure ¶ 4.]

<sup>2</sup> August 29, 1978, is the filing date of Atochem's French priority patent application. Under 35 U.S.C. § 119, Atochem is entitled to rely on the filing date of its French patent application.

were generally effective stabilizers, they had certain drawbacks, including that of high cost because of the tin, the most expensive part of these chemicals.

Those in the industry had also used sulfur-containing chemicals without tin, sometimes alone and sometimes in combination with organotin compounds, as PVH stabilizers. [Foure ¶ 35.] These sulfur stabilizers had their own disadvantages, however, including a significant odor problem. [Foure ¶ 35.]

Significantly, those of ordinary skill in the art were not able to accurately predict whether a particular class of sulfur chemicals would be effective either as stabilizers in their own right, or as synergistic agents to improve the efficacy of another stabilizer. [Foure ¶ 45.] Only experimentation would show whether a combination of chemical classes was effective at stabilizing PVH polymers. [Foure ¶¶ 45, 118.]

#### **A. Nature of Invention**

During the late 1970s, French scientists Dr. Jean-Yves Chenard and Dr. Jean-Claude Mendelsohn working at Societe Nationale Elf Acquitane, a French company related to Atochem, discovered a novel and exciting combination of substances that, when added during PVH processing, stabilized the PVH polymers (and resultant products) to an unprecedented degree. [Foure ¶ 8.] More specifically, they discovered that the addition of a very specific kind of sulfur-containing compound having no tin, called a "reverse ester,"<sup>3</sup> to certain organotin compounds dramatically inhibited degradation of the PVH polymers during processing. [Specification of U.S. Patent

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<sup>3</sup> The reverse ester is called "Compound B" in Defendant's Memorandum.

Application No. 07/870,759, attached as Ex. D, at 1.] Surprisingly, this novel and unobvious combination of chemicals--the sulfur-containing reverse esters combined with certain types of organotin compounds--was far more effective at stabilizing PVH polymers than other combinations of sulfur chemicals and organotin compounds.

The use of the innovative Chenard and Mendelsohn stabilizer system results in polymers that are markedly more stable to heat, shock, and light than those polymers using prior stabilizers. [Ex. D at 5.] The synergy discovered by the inventors by adding the reverse ester to the organotin compound, a good stabilizer in its own right, enabled the inventors to replace a portion of the more expensive organotin compound with the less expensive reverse ester without compromising stabilization performance. [Fouré ¶¶ 8, 76.] This partial replacement of the organotin significantly reduced the cost of achieving a given degree of stabilization. [Ex. D at 3, 21; Fouré ¶¶ 8, 76-77.] As an added benefit, the novel stabilization system reduced both viscosity and odor problems seen with prior art stabilizer systems. [Ex. D at 3, 13.]

#### **B. The Chenard and Mendelsohn Patent Application**

The present application in this litigation, Serial Number 07/870,759, claims priority from an application filed in France on August 29, 1978. The inventors filed a corresponding U.S. patent application a year later with the PTO on August 28, 1979. As a result of repeated rejections of Atochem's claims under various PTO theories and arguments, and in the face of inconsistent positions taken by the PTO, Atochem was forced to file a chain of continuing applications leading to the one currently pending and at issue in this case.

The pending patent claims at issue in this case are directed to compositions and methods for stabilizing PVH polymers. There are in general two sets of claims pending; what distinguishes one set from the other is the identity of the claimed organotin compound.<sup>4</sup> In the first set of claims, the organotin compound must contain at least one sulfur atom bonded (i.e., directly attached) to the tin atom.<sup>5</sup> [Fouré ¶ 12.] In the second set of claims, the organotin compound must contain at least one halogen atom<sup>6</sup> bonded to the tin atom.<sup>7</sup> [Fouré ¶ 12.]

The present claims differ from what was disclosed in the prior art in that they combine each of these two particular types of organotin compounds with a reverse ester. Prior to the inventors' discovery, no one had ever combined reverse esters with either of these particular two types of organotin compounds. And, as Atochem has argued consistently throughout the prosecution of the series of patent applications leading to the application currently pending, it was a remarkable departure from the prior art to do so and a scientific advance worthy of patent protection.

After several years of prosecuting this current patent application before the PTO, Atochem appealed the pending rejections of its claims to the Board in 1994. Five years later, the Board ruled,

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<sup>4</sup> The present application contains more than 100 claims which, as noted above, fall into two separate groups but which ultimately should be treated individually for patentability purposes. For purposes of the summary judgment motion and for ease of discussion, however, Atochem will discuss the claims in groups rather than address each claim individually.

<sup>5</sup> The Defendant's Memorandum this type of organotin compound "Compound A."

<sup>6</sup> A halogen is the generic name for the group of chemical elements comprising fluorine, chlorine, bromine, iodine, and astatine. Halogens have shared chemical and physical characteristics. [Fouré ¶ 12 n.2].

<sup>7</sup> The Defendant described this organotin compound as "Compound A' (A-prime)."



among other issues not relevant here, that all pending claims would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See* 35 U.S.C. § 103. Following the Board's denial of Atochem's request for reconsideration, Atochem brought suit in this Court pursuant to 35 U.S.C. § 145.

### III. ARGUMENT

Summary judgment is appropriate only where the evidence before the Court shows that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. Fed. R.Civ. P. 56(c). A dispute about a material fact is genuine when the evidence is such that a reasonable jury could return a verdict for the non-moving party. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). All that is thus required to defeat summary judgment is sufficient evidence supporting the claimed factual dispute, requiring the Court to resolve differing versions of the truth at trial. *See id.* at 249 (quoting *First National Bank of Arizona v. Cities Serv. Co.*, 391 U.S. 253, 288-89 (1968)). In assessing the sufficiency of the Defendant's summary judgment showing, the Court must credit Atochem's evidence and draw all justifiable inferences in Atochem's favor. *See Anderson*, 477 U.S. at 255. Summary judgment should not lie here because Atochem's evidence, reflected in the attached Declarations of Drs. Foure and Bertelo and accompanying exhibits, is such that a reasonable fact finder could--and indeed Atochem submits should--find in favor of Atochem.

In this case, there is a body of evidence--some of which was in the record before the Board, some of which has been recently developed--that completely destroys the Defendant's argument that the claimed invention was obvious. For example, and as explained below, experimental evidence

of the claimed invention's superiority relative to other non-claimed combinations was before the Board when it rendered its decision, but was either ignored or misunderstood. More specifically, the use of the claimed reverse ester in combination with the claimed organotin compounds repeatedly gave better stabilization results (measured in terms of PVH discoloration, an indicator of destabilization) than other stabilizer systems. Yet the Board ignored this evidence, faulting Atochem for, *inter alia*, failing to compare the claimed invention with a particular stabilizer combination which the Board considered to be the closest prior art.

While the Board's criticism was no reason to discount the unexpected, superior results that *were* shown, the tests allegedly lacking from Atochem's earlier submissions have now been conducted. Comparing exactly that combination cited by the Board as the closest prior art with the claimed invention shows the Chenard and Mendelsohn invention to be truly remarkable, with stabilization properties unexpectedly surpassing those of the allegedly "closest" prior art. This evidence puts to rest any allegations regarding the sufficiency of Atochem's evidence but, more importantly, completely contradicts the Board's finding of obviousness. Atochem intends to rely on this evidence at trial--evidence that stands in sharp contrast to the Defendant's allegations of obviousness. Thus, not only are the material facts asserted by the PTO in genuine dispute, but unless the facts presented by Atochem are shown to be in dispute, the Board's decision must be reversed.

**A. The Defendant's Motion for Summary Judgment is Predicated on An Erroneous View of § 145 Actions**

The PTO's summary judgment motion is based, at its core, on two assertions: (1) that the plaintiff in a § 145 action is not entitled to present any new evidence and therefore is not entitled to

a trial; and (2) that the Court owes deference to the Board's decision rather than conduct a *de novo* proceeding. These core arguments are each wrong as a matter of law. Because the PTO's summary judgment motion critically depends on these assertions, the motion must be denied.

**1. Atochem is Entitled to Present New Evidence at Trial**

Defendant would have the Court treat this § 145 action as a direct appeal on the existing record. But a § 145 action is not simply a judicial review of a closed evidentiary record. *See Gould v. Quigg*, 822 F.2d 1074, 1076 (Fed. Cir. 1987) (noting that in § 145 cases, "the parties are *entitled* to submit additional evidence" (emphasis added)). Rather, a § 145 action is the statutorily mandated avenue by which disappointed patent applicants can *supplement* the record with additional evidence and obtain a fresh look at the issues of patentability addressed by the Board. *See id.* Atochem is thus entitled to supplement the record with new testimonial and tangible evidence, on all matters pertaining to the issue of obviousness that were addressed or raised by the Board. The Court then determines the issue of patentability based on the record developed at trial:

If the evidence adduced before [this Court leads] to a decision different from that reached by the PTO, that is not contrary to the legislative purpose of section 145 *de novo* review. Indeed, it is in fulfillment of that purpose.

*Burlington Indus., Inc. v. Quigg* 822 F.2d 1581, 1584 (Fed. Cir. 1987).

The Defendant's attempt to prevent the introduction of *any* evidence in this case beyond the record already developed during the course of patent prosecution leading up to the Board's decision clearly frustrates this purpose in actions under either 35 U.S.C. § 145 or § 146.<sup>8</sup> And, as the Federal

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<sup>8</sup> Actions under § 145 (*ex parte* patentability cases) and § 146 (*inter partes* "patent interference" cases) both are taken from decisions of the Board and are governed by the same

Circuit's decision in *Winner* makes clear, evidence that is relevant to the issues of patentability addressed or raised by the Board is admissible. The Defendant's blanket assertion (at page 30 of its Memorandum) that "[this] Court should not be the first tribunal to review technical evidence" is simply wrong and contrary to the weight of authority. See *Winner*, 202 F.3d at 1351 (district court did not abuse its discretion in admitting new testimony and survey report); *Estee Lauder, Inc. v. L'Oreal, S.A.* 129 F.3d 588, 591-92 (Fed. Cir. 1997) (noting that the district court did not abuse its discretion in admitting new evidence of test results which were relevant to an issue raised at the Board).

Although the Defendant cites the *Winner* case in its brief, it wrongly dismisses this controlling decision as somehow irrelevant. Defendant makes no more than the vague remark that "[a] plaintiff in a section 145 action can, *under the proper circumstances*, present new evidence not first presented to the PTO," apparently defining the "proper circumstances" as those instances where a § 145 plaintiff somehow "justifies" its evidentiary proffer. See Defendant's Memorandum at 27 (emphasis added). The Federal Circuit, however, has imposed no such requirement. Instead, the Federal Circuit specifically *rejected* the kind of justification requirement that the Defendant now seeks to impose. See *Case v. CPC Int'l. Inc.*, 730 F.2d 745, 752 (Fed. Cir. 1984) (rejecting the

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procedural principles. The *ex parte* proceeding upon which a § 145 action is based provides no opportunity to present live testimony to the Board. See *Winner*, 202 F.3d at 1346. Although a § 146 action is predicated upon an *inter partes* proceeding for which more evidentiary opportunities are available, it also springs from an administrative proceeding providing no opportunity for live witnesses before the Board. Section 145 and 146 actions thus provide this Court with a powerful advantage over the Board in that it allows for live testimony from which the Court can observe demeanor, hear witnesses rebut one another's testimony, and determine credibility. *Id* at 1346-47.

proposition that evidence is excluded if deliberately withheld). Indeed, the Court set a liberal standard for the admission of relevant evidence:

In our view, since an action under [§ 146] has the hybrid nature of an appeal and a trial (de novo), the statute authorizes the district court to accept all proffered testimony on issues raised by the parties during the proceedings below or by the board's decision.

*Case*, 730 F.2d at 725.

In support of its justification of evidence theory, the Defendant relies almost exclusively on older, non-binding cases that have no applicability in light of the *Winner*, *Estee Lauder*, and *Case* Federal Circuit decisions. Even the *Fregeau v. Mossinghoff*, 776 F.2d 1034 (Fed. Cir. 1985) case, a Federal Circuit case the Defendant relies on, recognizes that a § 145 plaintiff is entitled to present new evidence. *Fregeau*, 776 F.2d at 1037 (stating that "the parties are entitled to submit additional evidence"). Thus, while *Fregeau* explains that a § 145 action must take the proceedings at the PTO into account, it further explains that such an action nevertheless allows the plaintiff to supplement the record with new evidence relevant to the issues raised at the Board.<sup>9</sup>

## **2. The Board's Findings of Fact and Legal Conclusions are not Entitled to Deference in this Case**

This Court reviews the ultimate legal determination of obviousness *de novo*. See *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999), *overruled on other grounds by In re Gartside*, 203 F.3d 1305, (Fed. Cir. 2000). As to underlying factual issues, the introduction of new or different evidence, including live testimony pertaining to the exact same issues addressed by the Board,

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<sup>9</sup> In fact, in *Fregeau*, the plaintiff introduced new evidence at trial through the testimony of an expert witness and the inventor.

triggers a *de novo* trial. See *Winner*, 202 F.3d at 1346-47; *Burlington Indus.*, 822 F.2d at 1583, see also *Dickinson v. Zurko*, 527 U.S. 150, 164 (1999) (noting that it is settled law that in a § 145 action, a patent applicant may present new or different evidence which makes a factfinder of the district judge).

Atochem intends to present its evidence on all issues in the case through live testimony. Thus, this Court owes no deference to the Board's factual findings, and must make its own findings of fact with respect to all of Atochem's evidence, which spans all issues raised by the Board and is reflected at least in part in the accompanying affidavits and exhibits.<sup>10</sup> See *Winner*, 202 F.3d at 1346-47; *Burlington Indus.*, 822 F.2d at 1583; cf. *Fregeau*, 776 F.2d at 1038 (Board's findings of fact reviewed by the district court under the then-prevailing clearly erroneous standard of review, but "where new evidence is presented to the district court on a disputed fact question, a *de novo* finding will be necessary to take such evidence into account together with the evidence before the board").

The Defendant's argument that the Court must apply a "substantial evidence" standard of review is thus misplaced. Indeed, in *Winner*, the Federal Circuit rejected the Defendant's argument that a district court action brought by a party to an interference under § 146 required a substantial evidence standard of review. Instead, the Federal Circuit "establishe[d] a clear rule that live testimony admitted on all matters that were before the Board triggers a *de novo* trial." *Winner*, 202

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<sup>10</sup> Discovery has not yet commenced in this case. Atochem therefore reserves the right to rely on additional evidence, as warranted, at trial.

F.3d at 1348. Although *Winner* involved a § 146 action<sup>11</sup> to overturn a Board decision from an interference proceeding, the Federal Circuit's "clear rule" applies with equal force to a section § 145 action, where the patent applicant has not yet been afforded an opportunity for any live testimony on the issues of patentability addressed by the Board. See *Winner*, 202 F.3d at 1345-46 (treating § 145 action as analogous to a § 146 action). The introduction of live testimony in a § 145 case is by definition new evidence that entitles Atochem to a *de novo* review. See *Winner*, 202 F.2d at 1346; *Burlington Indus.*, 822 F.2d at 1584.

The cases cited by the Defendant in support of a substantial evidence standard of review involve a direct appeal to a U.S. Court of Appeals from an agency determination and are thus inapplicable.<sup>12</sup> See *Gartside*, 203 F.3d at 1308 (direct appeal from PTO to Court of Appeals for the Federal Circuit); *Consolidated Edison Co. of N.Y. v. NLRB*, 305 U.S. 197, 218 (1938) (direct appeal to the Court of Appeals for the Second Circuit from a decision of the National Labor Relations Board); *Consolo v. Federal Maritime Comm'n*, 383 U.S. 607, 611 (1966) (direct appeal to the U.S. Court of Appeals for the District of Columbia Circuit from a decision of the Federal Maritime Board). Such direct appeals from federal agency adjudicatory boards to the courts of appeals involve

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<sup>11</sup> The *inter partes* proceeding underlying a § 146 action includes witness direct and cross-examination testimony by declaration and/or deposition, but does not allow for live testimony before the Board.

<sup>12</sup> The Defendant also cites *Gallagher v. Quigg*, 8 USPQ2d 1437, 1438 (D.D.C. 1988) in support of its "substantial evidence" standard of review. In *Gallagher*, this Court applied a clearly erroneous standard of review to a summary judgment motion in a § 145 case. *Gallagher* did not address the issue of the proper standard of review in light of *new* evidence proffered to the Court. At any rate, *Gallagher* predates the controlling Federal Circuit *Winner* decision and does not govern this case.

review of a record that is developed fully and solely within the agency and for which there is no opportunity for further fact finding. Under these circumstances, the reviewing court applies a more deferential standard of review. *See Gartside*, 203 F.3d at 1315 (substantial evidence standard of review applies because appellate review is confined to the factual record compiled by the Board). These circumstances, and thus the substantial evidence standard of review, do not apply here.

Atochem respectfully submits that the Court should reject the Defendant's attempt to eviscerate the *de novo* review that § 145 was intended to provide. Atochem, having chosen to file suit in this Court under § 145 instead of seeking appellate review at the Federal Circuit, is entitled to present new evidence, including but not limited to the evidence reflected in the declarations and exhibits accompanying this opposition, which is subject to this Court's *de novo* assessment.

**B. There are Genuine Disputes as to Material Facts**

To establish obviousness under 35 U.S.C. § 103, the PTO must prove that "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a). The operative words are "at the time the invention was made" *See Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 956 (Fed. Cir. 1997) (the decisionmaker must "focus on conditions as they existed when the invention was made") It is impermissible to use, as the Board did here, the Applicants' own patent application as a blueprint for applying the prior art against the claims. *See Grain Processing Corp. v. American Maize-Prods. Corp.*, 840 F.2d 902, 907 (Fed. Cir. 1998) (court must avoid hindsight reconstruction using the



patent disclosure as a guide for combining prior art references). Rather, the Court must refrain from using hindsight and must assess the claims from the vantage point of a person of ordinary skill in the art at a time prior to August 29, 1978, the filing date of the earlier Chenard and Mendelsohn French patent application. *See Arkie Lures*, 119 F.3d at 956.

The determination of whether the claimed invention is obvious is a legal conclusion that rests on several factual underpinnings, including (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of unobviousness. *See Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966). Such objective evidence may include unexpected superiority of the claimed invention over the prior art, long-felt need, and/or commercial success. *See id.* The Court must assess *all* of the evidence bearing on the question of obviousness when making its determination. *Arkie Lures*, 119 F.3d at 957.

Defendant invites this Court to ignore critical facts in the record that contradict the Board's findings of fact and to blindly adopt the Board's decision. Most notably, the Board, and now the Defendant, misinterpreted key prior art references, ignored a critical passage in a prior art reference that taught away from the claimed invention, and improperly extracted and combined disparate elements from extremely broad prior art disclosures to hold Atochem's patent claims obvious under § 103. The PTO then completely ignored the most compelling evidence of unobviousness, Atochem's evidence of the unexpected superiority over the claimed invention. This is critical evidence that was entitled to but received no due consideration.

#### **1. The Prior Art Did Not Make the Claimed Invention Obvious**

The PTO relied on a mosaic of prior art<sup>13</sup> from which it pieced together selected, disparate excerpts to argue that the claimed compositions and methods of PVH stabilization would have been obvious at the time the invention was made to a person of ordinary skill in the relevant field of endeavor. *See* § 103. But none of the prior art references teaches or suggests the actual combination of specific components claimed by Atochem. None would have motivated a person of ordinary skill in the art<sup>14</sup> to take the innovative steps Drs. Chenard and Mendelsohn took; namely to preferentially identify and carve out a small, specific subclass of sulfur-containing compound--the reverse esters--and combine them with the specific types of claimed organotin compounds.

The obviousness analysis requires a step back in time to the date of the invention (i.e., no later than August 29, 1978) to consider the state of the art in the field of PVH stabilization, "guided only by the prior art references and the then-accepted wisdom in the field." *Dembiczak*, 175 F.3d at 999. Obviousness must be assessed from the vantage point of a skilled artisan at the time the invention was made to avoid the "tempting but forbidden zone of hindsight." *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873 (Fed. Cir. 1985). Thus, the applicant's own patent application cannot be used as a blueprint against him when determining whether others in the field would have

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<sup>13</sup> The Board affirmed the Examiner's rejection of all pending claims as obvious under § 103 over U.S. Patent No. 3,928,285 (Ex. F, "Gough patent") in view of U.S. Patent Nos. 3,830,751 (Ex. G, "Stapfer patent"), 3,196,129 (Ex. I, "Hechenbleikner 129 patent"), 3,167,527 (Ex. H, "Hechenbleikner 527 patent"), 3,758,537 (Ex. L, "Wowk patent"), 3,595,893 (Ex. M, "Schroeder patent"), 2,832,750 (Ex. J, "Weinberg patent"), and 3,817,915 (Ex. K, "Kauder patent").

<sup>14</sup> Although the Defendant maintains that the Board implicitly defined the level of skill in the art in terms of the prior art disclosures, the Board does not appear to have made any specific findings as to the level of skill in the art. Atochem submits that the person of ordinary skill in the art would have had either an undergraduate or advanced degree in chemistry, with experience in the field of PVH stabilization. [Four ¶ 9.]

found it obvious to arrive at the claimed invention. See *Dembiczak*, 175 F.3d at 999. This is an especially difficult task to accomplish without relying on hindsight in this case because more than 20 years have now passed. And the Board failed to avoid the temptations of hindsight when it held Atochem's claims obvious.

In order to establish obviousness at the time the invention was made, the evidence must provide a teaching, suggestion, or reason to select the claimed reverse ester and to furthermore substitute the claimed organotin compounds for the organotin-borates of Gough. See *Winner*, 202 F.3d at 1349. The absence of such a suggestion or motivation to combine is *dispositive* of the obviousness inquiry. See *id.* (citing *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1578-79 (Fed. Cir. 1997)). Whether such a teaching, suggestion, or motivation existed is a disputed question of material fact. See *Winner*, 202 F.3d at 1348-49. Not only must the prior art suggest the claimed composition, but it must also provide those making the claimed invention a reasonable expectation of success. See *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991); *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988). Both the suggestion and the reasonable expectation of success must be founded in the prior art, not the applicant's disclosure. See *Dow*, 837 F.2d at 473. The showing of combinability, whether found in the prior art references themselves, the knowledge of one skilled in the art, or the nature of the problem to be solved, must be "clear and particular." *Winner*, 202 F.3d at 1348-49; see also *Dembiczak*, 175 F.3d at 999. In this case, it is neither.

## **2. The Gough patent**

The Gough patent is the primary reference and serves as the cornerstone of the PTO's theory of obviousness. But the PTO did not appreciate that the Gough patent disclosed an essentially

useless invention that persons of ordinary skill in the art would have immediately ignored. The PTO also failed to identify the statements in the Gough patent that would have directed skilled artisans away from the invention claimed by Atochem. The PTO did not and cannot explain why a person of ordinary skill in the art would have preferentially extracted one component from the failed Gough system and combined it with another class of chemicals that Gough expressly rejected as inferior. A critical factual dispute in this case thus centers on how a person of ordinary skill in the art would have interpreted the Gough patent without knowledge of Atochem's invention and whether such a person would have been motivated to preferentially extract from Gough the claimed reverse esters and combine them with organotin compounds disclaimed by Gough. *See In re Baird*, 16 F.3d 380, 328 (Fed. Cir. 1994) ("What a reference teaches is a question of fact.").

**a. The Gough Patent Does Not Suggest the Claimed Combination**

The Gough patent allegedly discloses "synergistic stabilizer compositions comprising an organotin-borate and an organic thiol compound." [Ex. F., col. 1, lines 7-9]. An "organotin-borate" is a very narrow subclass of organotin compounds that contain, in addition to tin, a chemical "borate" group<sup>15</sup> bonded (attached) to the tin atom. [Fouré ¶ 21.] Organotin-borates are entirely different from the organotin compounds that are within the scope of the pending claims. [Fouré ¶ 21.] In fact, persons of ordinary skill in the art would have understood that the focus of the Gough patent was the preferential use of this narrow, new class of organotin-borates, from among the almost unlimited number of theoretically possible organotin compounds, as the primary PVH stabilizer. [Fouré ¶ 23.]

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<sup>15</sup> A borate group contains both boron and oxygen in a specified configuration.

The Gough patent combines the disclosed organotin-borates with another extremely large class of compounds called "thiols" [Ex. F at col. 1, lines 7-9; Foure ¶ 24.] Thiols are compounds that contain the chemical elements sulfur and hydrogen in a defined relationship. Chemists denote the thiol group as "-SH;" all thiols contain the thiol group. [See Ex. B, "Bertelo" Declaration at ¶ 9.] The class of thiols generically disclosed by Gough is extremely broad, encompassing an uncountable number of possible thiol variants. [Foure ¶ 38.] Although reverse esters are encompassed within the class of thiols disclosed in Gough, they are included as but one subclass of the extremely large thiol class which Gough generically represents could be used to synergistically improve the performance of his organotin-borates. [Foure ¶ 38.]

The Gough patent also names 29 illustrative examples of thiols, representative of the variety of the broad class of thiols it describes. Gough does not explain, however, why these 29 chemicals deserve mention other than membership within the broad thiol class. [Foure ¶ 39.] Only one of the 29 chemicals listed is a claimed reverse ester. [Foure ¶ 39.] But there is nothing to suggest that this reverse ester differs in any respect from any of the other listed thiol compounds, or indeed from any other member of the large thiol class. [Foure ¶ 39.]

Significantly, the Gough patent presents the results of PVH stabilization tests using representative examples of the Gough organotin-borate/thiol stabilizer system. None of the tests included a reverse ester. [Foure ¶ 41.] Nor did the Gough patent indicate how any reverse esters--including the one enumerated--would work in conjunction with organotin-borates relative to the other sulfur chemicals actually tested. [Foure ¶ 44]. Thus, although reverse esters are disclosed in

Gough, they are merely one undistinguished example within the context of a broader disclosure focused primarily on the organotin-borate, not the thiol, component of the Gough invention.

Certainly there is nothing in the Gough patent to suggest that the claimed reverse esters would be in any way superior to the thiols actually tested by Gough. [Fouré ¶ 44.] At most, Gough teaches that the reverse esters are equivalent to the rest of the thiols disclosed in the Gough patent, when used in conjunction with Gough's organotin borates. Gough could even be construed as suggesting that the reverse esters, as a class, perform *less* favorably than other thiols because Gough tests certain preferred thiols, none of which are reverse esters. [Fouré ¶ 43.]

Even if one were to find and highlight the reverse esters in Gough, there is no basis on which the person skilled in the art would have decoupled them from the organotin-borates and utilized them with some other types of organotins. [Fouré ¶ 22.] The very essence of Gough is the replacement of other types of organotins with the organotin-borates. [Fouré ¶ 23.] It is only with the advance knowledge of Atochem's disclosure that the Board could find that a person of ordinary skill in the art would decide to drop the key Gough ingredient (an organotin borate) but keep the obscure conjoint component, the claimed reverse ester.

Moreover, persons of ordinary skill in the art would have understood that the Gough organotin-borate/thiol stabilizer system was ineffective and commercially useless. [Fouré ¶¶ 20, 28.] The test results reported in the Gough patent demonstrate that the Gough organotin-borates, when used alone, do not provide any meaningful stabilization activity. [Fouré ¶ 29.] Even Gough's organotin-borate/thiol combinations--which Gough touts as an improvement over the prior art--would have been rejected as useless by those of skill in the art. Gough's results show little or no

improvement over prior art stabilizers, despite the higher tin content in Gough's organotin-borate stabilizers. [Ex. F, cols. 13-14, Tables 1-2.] Further, one of ordinary skill in the art would have questioned Gough's subjective observations of alleged superiority of Gough's invention. [Fouré ¶ 31.] Objective comparisons of Gough's combinations with prior art stabilizers clearly demonstrate the lackluster activity of Gough's stabilizers, which fell far short of improving upon conventional tin stabilizers. [Fouré ¶ 136.]

A person of ordinary skill in the art would have understood that the thiols of the Gough stabilizer system cannot improve the performance of Gough's organotin-borates to an acceptable level. [Fouré ¶ 34.] Thus, such persons would not have concluded that Gough teaches that the thiol class dramatically improved the performance of organotin-borates, let alone that they would so improve the vast class of tin stabilizers as a whole, as the PTO suggests on page 6 of the Defendant's Memorandum. And, since test results involving reverse esters were not included in the Gough patent, such persons would not have viewed Gough as disclosing that *reverse esters* dramatically (if at all) improved the performance of all tin stabilizers. [Fouré ¶ 41.]

Given the inferior performance of the organotin-borates, the Board's finding that "one of ordinary skill in the art would have understood that the synergistic combination of Gough is superior to other known combinations of stabilizers" is simply incorrect. [Fouré ¶ 33; cf. Ex. N at 14, Ex. N.] In fact, persons of skill in the art would have recognized the opposite. [Fouré ¶ 33.] And having so recognized the failure of Gough to produce an improved PVH stabilizer, skilled artisans would have discredited Gough's teachings as to what constitutes a suitable stabilizer system. [Fouré ¶ 32]. Thus, a person of skill in the art, after having read Gough, would have had no reason to preferentially select

the reverse ester with any expectation that it would function as a superior co-stabilizer when used with other known organotin compounds. [Four ¶¶ 37, 44.] The Board's contrary finding, at a minimum creates a genuine dispute of material fact requiring trial, but more importantly, establishes that the Board's decision on obviousness cannot be sustained.

**b. The Gough Patent Teaches Away From the Claimed Invention**

The PTO also ignored a critical piece of evidence in their obviousness analysis. In particular, the PTO chose to ignore that not only does the Gough patent fail to suggest the claimed combination, it actually teaches *away* from the claimed invention. And this teaching away is fatal to the PTO's theory of obviousness. *See Winner*, 202 F.3d at 1349-50.

More specifically, in his attempt to describe the benefits of his new organotin-borate-based stabilizer system, Gough specifically points out the disadvantages of the known classes of organotin compounds--including Atochem's claimed organotin compounds--which his invention is designed to overcome:

Many of these [prior PVH stabilizers] which have been used or suggested to be used to improve the resistance of [PVH polymers] to early color development during processing *have not been entirely satisfactory, or are expensive or are difficult to make, or have undesirable properties such as being odoriferous during processing of the plastic or in themselves impart some initial color to the plastic.*

[Ex. F., col. 1, lines 59-66 (emphasis added).] Although persons of skill in the art would have disregarded the Gough stabilizer system as unacceptable, they would nevertheless have agreed with the above statement as to the shortcomings of the then-existing PVH stabilizers. This passage thus



teaches *away* from the selection of the prior PVH stabilizers, a class which includes the claimed organotin compounds.

In fact, the passage quoted above was specifically relied on by the Examiner when, at one point during the prosecution of the chain of applications leading to the current application, she *withdrew* the Gough patent as a basis for any prior art rejection:

The Gough patent which is the earliest patent (US Patent 3928285 issued December 1975) suggesting mercapto alkanol derived carboxylic acid esters [i.e., reverse esters] as an enhancer for any organotin heat stabilizer namely the organotin borates, *teaches away* from their use with organotin sulfur linked heat stabilizers [e.g., the claimed sulfur-organotin compounds] since early color reduction and absence of sulfide odor are not obviated: col. 1 lines 44 to 66 col 8 lines 1 to 64 and col. 9 lines 11 and 12. Hence the Gough patent] is not being reapplied.

[See Office Action dated October 5, 1989, Prosecution history of Serial No. 273,669,<sup>16</sup> at 7-8, attached as Ex. Z (emphasis added)]. Thus, the Examiner, in removing Gough as a basis for a § 103 rejection, recognized that one of skill in the art would not have found the use of a reverse ester in conjunction with at least the claimed organotin-sulfur compounds to be obvious from the Gough reference.<sup>17</sup> Yet the PTO completely ignored both Gough's statement teaching away from the claimed invention and the Examiner's reliance on that statement to withdraw the Gough patent.

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<sup>16</sup> Serial No. 273,669 is one of the patent applications in the chain leading to the application at issue in this case. Hence, the Examiner's remark quoted above directly pertains to the subject matter of this case.

<sup>17</sup> Inexplicably, after a three and a half year hiatus, the Examiner reapplied the Gough reference as a basis for a § 103 rejection despite having previously found that it *taught away* from the claimed invention. The Examiner's change in position with respect to whether the Gough reference teaches away from the claimed invention demonstrates that, at a minimum, the interpretation of the Gough patent is a genuinely disputed issue of material fact requiring trial for resolution. See *Winner*, 202 F.3d at 139 (whether a reference teaches away from the claimed invention is a question of fact).

Indeed, in direct conflict with the Examiner's withdrawal of Gough as a basis for the rejection, the PTO asserts that persons of ordinary skill in the art would have understood from Gough that other combinations of organotin compounds (allegedly including the claimed organotin compound) and a reverse ester would be effective, if not equivalent, PVH stabilizers. *See* Defendant's Memorandum at 7. The PTO's internal inconsistency in positions with respect to what Gough teaches is in and of itself a critical factual matter requiring trial. *See Winner*, 202 F.3d at 1349.

Consistent with its statements regarding the disadvantages of the prior art, the entire thrust of the Gough patent is the use of a very narrow, specific subclass of organotin-borate compounds in connection with a broad, relatively undefined class of sulfur compounds (thiols). [Fouré ¶ 24.] To the extent Gough points persons skilled in the art in the direction of further research, it points in the direction of developing new organotin compounds, not in the direction of developing new, narrow classes of sulfur-containing co-extenders. [Fouré ¶¶ 22, 23.] Thus, Gough teaches away from the claimed invention in this regard, as well. [Fouré ¶ 22, 23.]

Finally, to the extent that a skilled artisan would have focused on the thiol aspect of Gough's disclosure, he or she would not have been led in the direction of the reverse ester. [Fouré ¶ 36.] The Gough patent discloses far more thiols than simply the claimed reverse ester, and presents test results for preferred formulations using thiols other than reverse esters: the tested thiols are all members of either the so-called "mercapto acid ester" class or the "simple thiol" class, neither of which includes reverse esters. [Fouré ¶ 40.] Thus, to the extent Gough might be considered as teaching in the direction of any specific thiols at all--an unwarranted assumption as noted above, and given

the discredit skilled artisans would have given the Gough patent's teaching regarding suitable stabilizers--it could only be said to teach in the direction of the mercapto acid ester and simple thiol classes. [Foure ¶ 42.]

### **3. The Stapfer patent**

The Defendant does not dispute that Gough lacks a disclosure of the claimed organotin sulfides and halides. To fill that gap, the Board turned to Stapfer, a patent directed to the use of a solid substrate (synthetic silicate powders) for known PVH stabilizers. [Foure ¶ 49.] The focus of Stapfer is not on any particular PVH stabilizers, but rather on the use of a solid substrate to support and enhance the performance of known stabilizers in general. [Foure ¶ 49.] Organotin sulfides and halides naturally are among the broad array of stabilizers disclosed by Stapfer because these generally were known in the art. Atochem's invention, however, lies in the hitherto unknown addition of certain reverse esters to form a unique stabilizer combination. Because the focus of the Stapfer patent is on the substrate, not the stabilizer, it cannot be said to direct persons skilled in the art in the direction of the claimed stabilizer combination. [Foure ¶ 48.]

The Stapfer patent refers generally to the types of stabilizers that could be used with Stapfer's silicate powders:

The following list of stabilizing compounds are suitable for practicing the present invention. While many of the compounds listed are poor stabilizers alone, they may be used in combinations which exhibit synergism that are further improved by the present invention.

[See Ex. G, col. 3, lines 14-18.] What follows this passage is an enormous list, spanning over 8 columns of text, of at least 17 extremely broad classes of stabilizers with numerous representative

examples for each class. [See Ex. G, col. 3, line 21 to col. 12, line 4; Foure ¶ 51.] This list covers, both generically by class and specifically by chemical name, a vast number and variety of compounds containing either tin, sulfur, or both. Despite this almost endless list of stabilizers, Stapfer does not specifically disclose any combinations of organotin compounds and sulfur compounds; Atochem genuinely disputes the PTO's assertion to the contrary. [Foure ¶ 48.]

But perhaps most significantly, the Defendant cannot dispute that Stapfer's enormous list does not include *any* reverse esters.<sup>18</sup> [Foure ¶ 60.] Stapfer simply cannot be said to teach or suggest the use of reverse esters in combination with *any* other stabilizer. If anything, the lack of disclosure of reverse esters among all the stabilizers in Stapfer confirms the unobviousness of the Atochem invention.<sup>19</sup>

Indeed, the above passage from Stapfer contains no direction whatsoever as to which stabilizers to combine. [Foure ¶ 61.] It amounts to no more than a vague suggestion that some unspecified stabilizers may be synergistically improved by other unspecified stabilizers. [Foure ¶ 62.] Atochem disputes the PTO's assertion that Stapfer provides the motivation to select the very narrow class of reverse esters from the broad thiol class disclosed in Gough and combine it with a selected class of organotin compounds encompassed within the broad Stapfer disclosure. [Foure ¶ 62.] There is no such specific suggestion and the vague remark pertaining to the possibility of

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<sup>18</sup> As demonstrated further below, none of the other references (with the exception of the Gough patent discussed above) discloses reverse esters.

<sup>19</sup> Nor does Stapfer disclose organotin-borates.

synergism does not provide motivation for this particular claimed combination.<sup>20</sup>

The Defendant argues that the class of compounds called "thiocarboxylates" which is included in the Stapfer list, is "in the same class" or "similar to" reverse esters. [See Defendant's Memorandum at 15.] The thiocarboxylate class is in its own right extremely broad, covering a wide range of different types of compounds. But those of skill in the art would not have included reverse esters within this class. [Fouré ¶ 55.]

Furthermore, the position of the -SH group within a thiocarboxylate molecule is fundamentally different than that of the reverse ester. [Fouré ¶ 55.] Indeed, it is the different position of the -SH group in the claimed reverse esters relative to that of the mercapto acid esters that makes the claimed esters "reverse." [Fouré ¶ 16.] Thus, even the disclosure of the generic class of thiocarboxylates cannot be said to suggest the selection of the very specific, claimed *reverse* esters for use as co-stabilizers with the specific claimed organotin compounds.

In fact, the Stapfer patent contains absolutely no guidance as to which of the many listed chemicals or types of chemicals to combine. [Fouré ¶ 61.] Rather, the Stapfer patent makes clear

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<sup>20</sup> The Defendant argues that Stapfer discloses that "the listed classes of stabilizer compounds may be combined with one another to make a superior stabilizer composition." See Defendant's Memorandum at 15-16. Atochem disputes that the vague passage quoted above specifically directs persons of ordinary skill in the art to combine members of different classes of compounds, as opposed to members of the same class. But the Defendant continues: "This is exactly what Atochem is attempting to patent." *Id.* at 16. To the contrary, the combination of different broad classes of stabilizers is *not* what Atochem's claims cover, and the statement reflects a fundamental misunderstanding of the scope of the claims. Instead, Atochem's claimed invention relates to the *very narrow* class of claimed reverse esters in combination with the specific claimed organotin compounds, a specific combination the prior art in no way taught or suggested.

that the focus of the invention is not on the selection of any particular stabilizer or combinations of stabilizers:

This invention does not reside in the selection of the particular stabilizer used and the compounds listed above are intended to be exemplary. These [sic] skilled in the art are able to determine the particular stabilizer, or stabilizers most suitable for a particular resin formulation and use. After the selection of the desired stabilizer, the present invention is applied by combining therewith a synthetic silicate powder.

[Ex. G, col 12, lines 5-12.]

Furthermore, the Stapfer patent exemplifies only one specific combination of stabilizers--a combination of two chemicals, *both* of which contain tin. [Ex. G, col. 14, table VI, example VIII ("butyl stannic acid" and "isooctyl thiostannic acid").] Thus to the extent Stapfer can be argued to suggest *any* specific stabilizer combinations, it points in the direction of combinations of organotin compounds.

Contrary to the Board's decision, Stapfer certainly does *not* "disclose that a combination of [claimed organotin-sulfur compound] and organic [sulfur] compound produces synergistic results" in stabilizing PVH polymers. [Fouré ¶ 53.] Nor would persons skilled in the art have understood Stapfer to provide the teaching "that it was well known in the art that a combination of organotin mercaptides [i.e., one of the claimed organotin compounds] and organic thiols [a class which includes, among many other things, reverse esters] provides a synergistic stabilization of [PVH]." [Ex. N at 14 (citing to Stapfer patent, Ex. G, col. 3, lines 16-19, quoted above)]. The Stapfer disclosure relates to a fundamentally different invention and is simply too vague and too broad in its other respects for anyone of skill in the art to have gleaned such a specific teaching. The PTO's assertion to the contrary is wrong, and Atochem's evidence herein creates a genuine dispute as to a material fact which makes

summary judgment in favor of the Defendant improper.

#### **4. The Remaining References**

Defendant cites several other references, but rather than supporting the conclusion of obviousness, they only reinforce the unexpectedness of the combination of claimed organotin compound with reverse ester.

The Hechenbleikner patents [Exs. H and I] disclose mixtures of a tin stabilizer and a non-tin-containing sulfur compound selected from one of two classes of chemicals. The Hechenbleikner patents do not disclose Atochem's claimed reverse esters. [Fouré ¶ 68.] Nor is there any mention of organotin-borates. Thus, nothing in the Hechenbleikner patents would have led one of ordinary skill in the art to replace Gough's organotin-borate stabilizer with either of the two classes of claimed organotin compounds. Nothing in the Hechenbleikner patent would have pointed a person of ordinary skill in the art in the direction of reverse esters. Although the Hechenbleikner patents describe synergistic stabilization effects from their stabilizer combinations, they do not in any way suggest the specific claimed combination. At best, Hechenbleikner might be said to provide motivation to search for new synergistic stabilizer combinations. But this is not a proper standard for obviousness. Absent a more clear and particular teaching, suggestion, or motivation, the Hechenbleikner patents do not overcome the deficiencies of the Gough and Stapfer references, nor do they provide the "missing link" between Gough and Stapfer to render the claimed invention obvious.

The Kauder [Ex. K], Weinberg [Ex. J], Schroeder [Ex. M], and Wowk [Ex. L] patents each disclose one or more of the two classes of organotin compounds claimed by Atochem. None disclose or suggest the claimed organotin compounds, however, in synergistic combinations with other thiols,

much less reverse esters. Again, these patents do not provide any motivation to combine the claimed organotin compounds with a reverse ester.

#### **5. The Differences Between the Claimed Invention and the Prior Art**

From these prior art references, the PTO claims that one of ordinary skill in the art would have known to preferentially select the reverse ester from the broad class of thiols disclosed in Gough and combine it with the particular classes of organotin compounds claimed by Atochem and disclosed elsewhere. But there is no rationale for preferentially selecting a reverse ester from among the thiols disclosed as part of the inoperative Gough stabilizer system, abandoning the central feature of Gough's system--the organotin-borates--and combining the reverse ester with certain classes of organotin compounds disclosed in the secondary references but rejected by Gough as inferior. [Fouré ¶¶ 23, 37.] The cited prior art, as whole, provides no guidance to a skilled artisan that would lead him to combine the two specific claimed components as Drs. Chenard and Mendelsohn did. As can be seen by the Stapfer reference alone, the variety and number of possible stabilizer combinations is endless. [Fouré ¶ 51.] In short, there is no specific information in Gough, Stapfer, or any other reference that suggests the specific selection of the reverse ester from among all other thiols for combination with the specific sulfur-containing or halogen-containing organotin compounds claimed by Atochem.<sup>21</sup> See *Dembiczak* at 1000. Thus, the Board's erroneous conclusion that the pending claims would have

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<sup>21</sup> The Defendant's chart on page 20 of its Memorandum tells the whole story. Only in Gough are reverse esters even mentioned. And they are mentioned in conjunction with a specialized class of organotin-borates that persons of ordinary skill in the art would have rejected as commercially useless. These references, even as a whole, do not provide any clear and particular showing of combinability. See *Dembiczak*, 175 F.3d at 999.



been *prima facie* obvious from the cited references cannot be sustained, let alone serve as the basis for the Defendant's summary judgment motion.

#### **6. Objective Evidence of Un-Obviousness: Unexpected Results**

In *Graham*, the Supreme Court explained that objective evidence of unobviousness, such as unexpected superiority over the prior art, must be considered in determining obviousness. *Graham*, 383 U.S. at 35-36. Such objective evidence, also called "secondary considerations" of unobviousness, deserves full and fair consideration, along with the rest of the evidence of unobviousness:

[E]vidence of secondary considerations may often be the most probative and cogent evidence on the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art.

*Arkie Lures*, 119 F.3d at 957.

At the time of the invention, skilled artisans were well aware of the use of organotin PVH stabilizers. The inventors found that the claimed combination, however, gave surprisingly superior stabilization results. What is particularly surprising is that the reverse esters, which contain a thiol (-SH) group, are far superior to other types of thiols, including the mercapto acid esters. As discussed above, the reverse esters differ from the mercapto acid esters in the position of the thiol (-SH) group. Comparative testing unambiguously shows that the position of the thiol group surprisingly and profoundly affects stabilization activity. [See, e.g., Fouré ¶¶ 145, 146; Bertelo ¶¶ 29-31.] The synergistic activity of the reverse esters is so superior that it enables a demonstrable reduction in the amount of tin stabilizer used without sacrificing stabilization efficacy. [See e.g., Fouré ¶ 85.] This results in, among other benefits, a significant reduction in cost when using stabilizers. [Fouré ¶ 77.]

The patent specification includes evidence of this unexpected superiority. Example XIV, for example, reports stabilization results for combinations of claimed organotin compound plus thiol--the three different combinations differ in the identity of the thiol used. Only one of the tested thiols is the claimed reverse ester. The two other compounds are a mercapto acid ester and a simple thiol--the very two types of thiols that were highlighted (exemplified with test results) in Gough's disclosure. Only the combination including the reverse ester displayed superior stabilization results. [Ex. D, 37-39; 103.]

The evidence of this particular subclass of thiols--the claimed reverse ester--as a superior co-stabilizer with the claimed organotin compounds was borne out repeatedly in the test data. A second set of test results in Example XIV demonstrates the same concept--that the reverse ester exhibits surprisingly superior results compared to a thiol that differs from it only in the position of the thiol group. [Ex. D. at 37-39; Fouré ¶ 107.]

Furthermore, the 1982 Fouré Declaration provided further evidence of the superiority of the reverse ester as a co-stabilizer. [Ex. P, Fouré ¶¶ 114-137.] In the declaration, Dr. Fouré presented test results using a variety of different organotin compounds in combination with a variety of sulfur-containing chemicals. The results were presented in terms of a "whiteness index" value, an accepted industrial measure of polymer degradation relying on changes in color. A high whiteness index means that the PVH sample has undergone little to no degradation, and therefore remains close to a true "white." [Fouré ¶ 113.]

The results in the 1982 Fouré Declaration show that the reverse esters are significantly better co-stabilizers than the other sulfur-containing chemicals tested, when used in conjunction with the

claimed organotin compounds. [Ex. P; Fouré ¶¶ 114-137.] It is incomprehensible why the Board was unable to discern the significance of these results. The 1982 Fouré Declaration results plainly could not have been found in or predicted from the prior art. The Defendant has pointed to no evidence or rationale for expecting such superior results.

The 1982 Fouré Declaration demonstrated something else--that the exact results that could be obtained using new and different combinations of various types of chemical compounds was unpredictable. [Fouré ¶ 115.] Certain sulfur-containing compounds, when combined with the claimed organotin compounds, exhibited *anti-synergistic* behavior. In other words, not only did the addition of certain sulfur compounds fail to improve the claimed organotin compound's stabilization effects--whether synergistically or simply cumulatively--but it actually *decreased* the efficacy of the claimed organotin compound. [Ex. P, Fouré ¶ 115.] Thus, one of skill in the art had no way of knowing if a particular combination of stabilizers would exhibit synergism, exhibit a stabilization effect equal to the sum of the respective stabilization activity of the component co-stabilizers, exhibit a stabilization effect equal to the activity of only one component, or exhibit anti-synergism. [Fouré ¶ 118.] This is powerful evidence of the unobviousness of the claimed invention.

The Board had this evidence of the claimed invention's superiority over the prior art and the unpredictability of the art before it. Yet the Board ignored this evidence, asserting that Atochem failed to adequately explain the content and significance of the declaration data. But the 1982 Fouré Declaration is self-explanatory and clearly points out which combinations fall within the scope of the claimed invention and which do not. [Ex. P at ¶ 4, p. 2-3 (pointing out which compounds fall within the scope of the Chenard and Mendelsohn invention).] The 1982 Fouré Declaration also describes the

test performed, and the significance of the numerical differences in whiteness index obtained with the various combinations tested. [Ex. P at ¶ 4, p. 4 (explaining the significance in a difference of 3 and 5 units, respectively, of the whiteness index).] And after each set of tests, the 1982 Foure Declaration sets forth Dr. Foure's conclusion as to the superiority of the claimed invention over the other combinations tested. Indeed, a simple comparison of the results for the claimed invention with those of unclaimed combinations conclusively demonstrates the superiority of the reverse ester when used with claimed organotin compounds. The Board's failure to consider this important evidence is reason alone to deny the Defendant's summary judgment motion. *See Arkie Lures*, 119 F.3d at 957.

A proper understanding of the 1982 Foure Declaration is a critical factual issue requiring trial for resolution. One of the purposes of a § 145 case is to allow for live witnesses, which in this case could help ensure that the 1982 Foure Declaration evidence is properly understood and considered.

The Board further faulted the 1982 Foure Declaration for failing to compare the claimed invention with what it considered the closest prior art, a Gough organotin-borate in combination with a reverse ester. [Ex. N at 15-16.] But a head-to-head comparison of the Gough organotin-borate plus reverse ester with the claimed invention recently conducted in Atochem's laboratories only proves the superiority of the invention over the prior art. [Bertelo ¶¶ 62, 69; Foure ¶¶ 143-150.] As described in the accompanying Declaration of Dr. Christopher Bertelo, an organotin-borate described in Gough was tested with three different sulfur-containing compounds. Two claimed organotin compounds were also each tested with the same three sulfur chemicals. As shown by the resultant whiteness index values and yellowness index values (another measure of destabilization), the Gough organotin-borate plus reverse ester combination was clearly inferior to the two claimed combinations. [Bertelo ¶¶ 62,

69.]

These new test results are powerful evidence of the unexpected superiority, and hence unobviousness, of the claimed invention. The Board identified the stabilizer combination it deemed closest to the claimed invention; these test results directly compare that combination to the claimed invention and thus put to rest any questions as to the relative merits of the claimed and Gough stabilizer systems.

Nothing in the Gough patent or any other prior art reference predicted or suggested such results. [Fouré ¶ 75.] There was no way to predict that the claimed reverse ester/claimed organotin compound combination would be superior to other thiol/organotin combinations. The superior results obtained by the Atochem inventors were completely unexpected. [Fouré ¶¶ 143-150.]

In face of such direct objective evidence of unobviousness, the Defendant's motion for summary judgment must surely fail. This evidence cannot be ignored. And, the new test results should not be excluded on the ground that Atochem's proffer requires some sort of "justification."

A § 145 action is designed to allow patent applicants to supplement the record with exactly this type of evidence, bearing directly on factual issues raised by the Board. Indeed, the evidence rebuts the Board's factual findings and legal conclusions. To allow the Defendant to exclude it would frustrate the purpose of § 145.

#### IV. CONCLUSION

Given the overwhelming evidence of the claimed invention's unobviousness, which at a minimum creates multiple issues of material fact requiring independent fact finding, summary judgment is wholly inappropriate. The prior art does not suggest, teach or motivate persons of skill

in the art to combine the reverse ester--disclosed as only one aspect of the inoperative Gough invention--with the classes of organotin compounds selected by the inventors. The claimed invention was not *prima facie* obvious. And the evidence of unexpected results overwhelmingly mandates against a finding of obviousness. For the above reasons, the Defendant's motion for summary judgment should be denied.

For these reasons, Atochem respectfully requests this Court to deny the Defendant's summary judgment motion.

Plaintiff respectfully requests oral argument.

Respectfully submitted,

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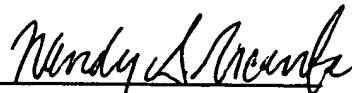
**CERTIFICATE OF SERVICE**

I hereby certify that true copies of the foregoing Memorandum in Opposition to Defendant's Motion for Summary Judgment, Plaintiff Atochem's Statement of Genuine Issues, Declaration of Michael R. McGurk in Support of Atochem's Opposition to Defendant's Motion for Summary Judgment, and Exhibits A-AD, were served on the Defendant, Q. Todd Dickinson, through his attorneys of record, on this 5<sup>th</sup> day of May, 2000, as follows:

By Facsimile and Overnight Priority Mail:

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By:   
Wendy S. Vicente

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

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Elf-Atochem North America, Inc.

Plaintiff,

v.

Q. Todd Dickinson

Defendant.

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) Civil Action No. 99-2559 (TPJ)  
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)

**PLAINTIFF ATOCHEM'S STATEMENT OF GENUINE ISSUES**

Pursuant to Local Rule 56.1, Elf Atochem North America, Inc. ("Atochem") submits that the following material facts of record present genuine issues to be tried by this Court before the present case can be resolved. This statement responds to the Defendant's Statement of Material Facts as to which there is No Genuine Dispute ("Defendant's Statement"). Atochem does not agree that all of these statements are material to the disposition of this case, but nonetheless responds to the Defendant's Statement in its entirety to clarify Atochem's position regarding the Defendant's Statement.

1. Atochem agrees that its claimed composition is a "stabilizer" which is useful to make polyvinyl chloride ("PVC") stronger, whiter, and more resistant to heat and light. Atochem's stabilizer combinations are also useful as stabilizers for the larger class of polyvinyl halide ("PVH") polymers.



2. The first patent application ("the priority application") was filed on behalf of the inventors, Drs. Chenard and Mendelsohn, in France on August 29, 1978. The first United States patent application was filed on August 28, 1979.
3. The patent application involved in this action, U.S. Patent Application No. 07/870,759 ("the '759 application"), was filed on April 20, 1992, on behalf of the inventors, Drs. Chenard and Mendelsohn, and has an effective filing date of August 29, 1978, the date of the original application filing in France.
4. Atochem agrees that the '759 application is fifth in the series of U.S. applications that stem from the priority application filed in France on August 29, 1978.
5. Atochem agrees that the '759 application contains over 100 pending claims, but would add that, for purposes of this action, the application claims can be grouped into two groups representing different embodiments of the invention. Atochem agrees that claims 247 and 296 are representative of the composition claims of these two groups, and adds further that claims 265 and 176 are representative of the method claims of these two groups.
6. Atochem agrees that it presented its claims to the Board in two groups representing different embodiments of the invention. Claims 247 and 296 are representative of the composition claims of these two groups. However, Atochem's appeal brief specifically stated that "[t]he claims do not stand or fall together." [See Ex. AB, at 8.]
7. Atochem agrees that the compositions of representative claims 247 and 296 include a product produced by mixing the specified chemicals in amounts effective to stabilize vinyl halide resins.

8. The two chemicals recited in claim 247 are "a mono-or diorganotin compound wherein at least one atom bonded to tin is sulfur"; and "a mercapto alkanol ester of a monocarboxylic acid." Atochem refers to these compounds, respectively, as the claimed organotin sulfur compound (what Defendant calls "Compound A") and the claimed "reverse ester" compound (Defendant's "Compound B").

9. While Atochem agrees that the *wording* of claims 247 and 296 differs in that claim 247 specifies "sulfur" whereas claim 296 specifies "a halogen," this wording difference represents two different types of organotin compounds. In representative claim 247, the composition of the invention comprises a mono- or diorganotin compound that contains a tin atom attached to a sulfur atom ("organotin-sulfur" compound) and a reverse ester. Representative claim 296 is directed to compositions of a reverse ester and a mono- or diorganotin stabilizer compound that contains a tin atom attached to a halogen atom ("organotin-halogen" compound). Halogen atoms are a genus of chemical elements with similar chemical properties and include fluorine, chlorine, iodine, bromine, and astatine. Sulfur is not a halogen atom.

10. Claim 296 is directed to combinations of organotin-halogen compounds with reverse esters.

11. Prior to appealing to the Board of Patent Appeals and Interferences ("the Board"), the Examiner rejected the claims in the '759 application for many reasons, only one of which was for obviousness over the Gough patent [Ex. F], read in view of the following secondary references: Stapfer [Ex. G],<sup>1</sup> Hechenbleikner '527 [Ex. H], Hechenbleikner '129 [Ex. I], Weinberg [Ex. J],

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<sup>1</sup> The Board elected to rely on a different Stapfer reference than the Examiner. It appears that the Examiner rejected the application over a different Stapfer patent, U.S. Pat. No.

Kauder [Ex. K], and Wowk [Ex. L]. At other times during prosecution, however, the Examiner has taken inconsistent positions and allowed some claims.<sup>2</sup> The Examiner has also taken the inconsistent position with similar claims in an earlier related patent application (in the chain leading to the '759 application) that the Gough patent teaches away from the claimed invention.<sup>3</sup>

12. Atochem appealed the Examiner's rejection to the Board.

13. More than five years after Atochem filed its appeal, the Board reversed all of the Examiner's rejections except one: the obviousness rejection over the Gough patent and the other secondary references.

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3,890,276 ("the '276 patent") [Ex. S]. This patent number was not included in the Notice of References Cited by the Examiner. Atochem determined that the Examiner referred to the '276 patent because of a specific citation within the Examiner's answer which can only be to the '276 patent. [See Ex. X, Examiner's Answer dated August 11, 1994 (page 14), reciting a bis[monobutyl tin di(isooctyl mercaptopropionate)] oxide species (referring to the '276 patent, Ex. S, col. 3, lines 10-11)].

As noted, the Board cited a different Stapfer patent [Ex. G, U.S. Patent No. 3,830,751 ("the '751 patent")] against the claims. For purposes of this action under 35 U.S.C. § 145, Atochem argues patentability over the '751 Stapfer patent cited by the Board.

<sup>2</sup> Claims similar to the pending claims have been found patentable by the PTO pending decision on an interference, an issue later mooted during prosecution. See Summary of Office Action dated September 29, 1982, allowing claims 60-71. Other claims similar to the pending claims have also been found patentable. See Office Action of June 29, 1990, at 4, allowing claims 73, 74, 75, 77, 78, 87, 88, 89, 91-92, 104-106, 108, 109, 121-123, 125, 126, 136-138, 140, 141 and 192-227. Other claims were rejected for reasons which Atochem has since overcome. See also cover page of Office Action mailed October 18, 1991, allowing claims 193-198, 200-207, 209-217, 219-225, 227-233, and 237-246. [See Ex. Y (collection of allowance decisions).]

<sup>3</sup> See Ex. Z and ¶ 18, *infra*.

14. The Board focused on one of the components of the claimed combination, the "mercapto alkanol ester of a monocarboxylic acid," which Atochem calls here the claimed reverse esters.
15. The Gough patent discloses broad general formulas for thiol compounds, one of which includes, but is by no means limited to, the claimed reverse ester. [See Ex. F, col. 3, formula (g).] More specifically, this formula has certain parameters which, when varied, result in several different subclasses of thiols. Thus, one of the formulas in the Gough patent denotes the claimed reverse esters *only* when  $h = 1$  and  $j = 0$ , one of 16 possible combinations for this general formula.
16. The Gough patent discloses that nearly all thiol compounds are suitable (i.e., equivalent) for use with Gough's organotin-borate compounds. The Gough patent never presented specific combinations of an organotin-borate and a claimed reverse ester; nor did the Gough patent present test results for reverse esters in combination with an organotin-borate or with any other stabilizer compound. Atochem did not admit and disputes that the organotin-borate compound is in the same class of compounds as the claimed organotin-sulfur and organotin-halogen compounds. Indeed, in its appeal brief, Atochem specifically stated that there were no teachings that organotin-borates and the claimed organotin compounds were equivalent. [See Ex. AB, at 29.] In the organotin-borate compound, the tin atom is attached to an oxygen atom, which is then attached to a boron atom. The attached Declaration by Dr. Michel Foure explains that the organotin-borates are a very unique subclass of tin stabilizer compounds which persons of ordinary skill in the art would not have considered interchangeable with organotin-sulfur or organotin-halogen stabilizer compounds. [See Ex. A.]

17. Atochem disagrees that the Gough patent discloses the subject matter of any of the pending claims to the Chenard and Mendelsohn invention. The Gough patent discloses that the combination of organotin-borates and thiol compounds is a better stabilizer than the organotin-borate compounds alone. Chenard and Mendelsohn discovered that a very specific narrow class of thiol compound, the claimed reverse ester, is an excellent co-stabilizer when used in combination with specific tin compounds that are very unlike organotin-borate compounds. Atochem disagrees that what it claims is "that a different additive -- with its sulfur atom bonded not at the acid part of the monocarboxylic acid but at the alcohol part of the compound [compound B] dramatically improved the performance of tin stabilizers used for stabilizers [sic] polymers." Rather, Atochem claims a specific combination of *claimed* reverse ester and *claimed* organotin compound and its method of use.

18. Atochem agrees that the Gough patent does not teach the use of organotin-sulfur or organotin-halogen compounds with Gough's thiol compounds. The Gough patent actually teaches away from using the claimed organotin-sulfur compounds in the background section:

Many of these [prior PVH stabilizers] which have been used or suggested to be used to improve the resistance of [PVH polymers] to early color development during processing *have not been entirely satisfactory, or are expensive or are difficult to make, or have undesirable properties such as being odoriferous during processing of the plastic or in themselves impart some initial color to the plastic.*

[Ex. F, Gough, col. 1, lines 59-66 (emphasis added)].

The Examiner found during prosecution of one of the applications in the series leading to the '759 application, that the Gough patent taught away from the claimed invention:

The Gough patent which is the earliest patent (US Patent 3928285 issued December 1975) suggesting mercapto alkanol derived carboxylic acid esters as an enhancer for any organotin heat stabilizer namely the organotin-borates, teaches away from their

use with organotin sulfur linked heat stabilizers since early color reduction and absence of sulfide odor are not obviated.

See Examiner's statement explaining why the Gough reference was not reapplied as a rejection against the Chenard claims in the Office Action mailed on October 5, 1989, for Application Serial No. 273,669 [Ex. Z, at 7-8]. Although the scope of the claims in Application Serial No. 273,669 was slightly different than the currently pending claims, the Examiner's characterization of the Gough patent teaching away from the claimed invention is a general statement that applies to both sets of claims.

19. Atochem agrees that the secondary references *collectively* disclose the use of one or both of the organotin-sulfur and organotin-halogen compounds as stabilizers for PVH polymers. The secondary references do *not*, however, teach or suggest the claimed combinations of these compounds with reverse esters.

20. Atochem agrees that the claimed organotin-sulfur and organotin-halogen compounds were known in the art at the time the invention was made.

21. Atochem understands that the Defendant refers to Atochem's "organotin-sulfur" compounds as Compound A and "organotin-halogen" compounds as Compound A'.

22. The Defendant is correct that the Board rejected Atochem's contention that there would have been no motivation to replace Gough's organotin-borates, the heart of Gough's invention, with other types of organotin stabilizer compounds. Atochem maintains that the Board was wrong as a matter of fact and law. Contrary to the Board's conclusion, there would have been no motivation for one of ordinary skill in the art to substitute an organotin-sulfur or organotin-halogen compound in place

of a Gough organotin-borate compound and then to combine the substituted compounds with a claimed reverse ester. In fact, Gough, while emphasizing the patentable distinction of this unique borate group over other prior art stabilizers, never mentioned the use of the organic thiols other than for their suitability as co-stabilizers with organotin-borates. Thus Gough asserted to the PTO that:

The art considered relates to synergistic organotin stabilizer compositions and resins containing same and therefor was considered art relevant to the invention disclosed and claimed in the above identified application. However the claimed invention of the above identified application is believed patentable over the art considered because the art individually and collectively fails to teach or make obvious a) the organotin borates, b) the synergistic stabilizer composition comprising an organotin borate and an organic thiol compound and c) the stabilized plastic compositions containing in synergistic combination an organotin borate and an organic thiol compound of the applicants' claimed invention.

[See Ex. AA, Gough prosecution history, response dated January 10, 1975.]

23. Contrary to the Board's findings, one of ordinary skill in the art would *not* have understood that the synergistic combinations of the Gough patent are superior to other known combinations of stabilizers. Rather, as demonstrated in Declarations by Drs. Michel Foure and Christopher Bertelo [Exs. A and B], the Gough combinations were generally inferior to other organotin stabilizers used *alone*. The organotin-borate combinations would have been dismissed overall as unsatisfactory by those in the art. Thus, the underlying premise of the Board's conclusion is wrong; as must be its conclusion. Furthermore, Atochem disagrees with the Defendant's statement that "other combinations of organotin compounds (such as Compounds A and A') and a mercapto alkanol ester (*i.e.*, claimed reverse ester) are effective, if not equivalent, stabilizers for PVC." [See Defendant's Memorandum in Support of its Motion for Summary Judgment, at 7.] The Gough patent does not even present test results for combinations of organotin-borates with reverse esters, so one of skill in

the art would have had no idea how reverse esters would perform relative to the other thiol compounds in Gough. Given Gough's preference to show test results only for mercapto acid esters and simple thiol compounds, one would have concluded that reverse esters did not demonstrate the efficacy of Gough's invention as well as the mercapto acid esters and simple thiols. The Declaration by Dr. Foure explains that mercapto acid esters and simple thiols were understood to be Gough's preferred compounds. [See Ex. A, at ¶ 43.] The Board had no basis to conclude that the claimed organotin compounds would be as effective in combination with Gough's reverse ester as was Gough's own organotin-borate.

24. The Board's finding of fact that is reflected in Defendant's statement of alleged fact ¶ 24 lacks any evidentiary support. The Stapfer patent [Ex. G] does not teach combinations of organotin-sulfur compounds with an organic sulfur compound or that such combinations synergistically stabilize PVC. The Board relies on the following statement from the Stapfer patent to support its alleged teaching:

The following list of stabilizing compounds are suitable for practicing the present invention. While many of the compounds listed are poor stabilizers alone, they may be used in combinations which exhibit synergism that are further improved by the present invention. [Ex. G, col. 3, lines 14-18.]

The Stapfer patent then lists at least 17 extremely broad classes of PVH stabilizers. Stapfer includes numerous representative examples for each class. [Ex. G, cols. 3-11; Foure Declaration, Ex. A, ¶ 51.] This list covers, both generically by class and specifically by chemical name, an enormous number and variety of stabilizers. The list includes compounds containing tin, sulfur, or both.



Only three of these classes are sulfur compounds that do not contain tin. More importantly, the Stapfer patent does *not* teach the use of any reverse esters in these sulfur classes, let alone the claimed reverse ester (Defendant's Compound B). [See Ex. A, Fourre Declaration, ¶ 60.] Further, Stapfer expressly disclaims that it teaches how to select compounds from its disclosure of over 1000 compounds, stating that:

*This invention does not reside in the selection of the particular stabilizer used and the compounds listed above are intended to be exemplary. These [sic] skilled in the art are able to determine the particular stabilizer, or stabilizers most suitable for a particular resin formulation and use. After the selection of the desired stabilizer, the present invention is applied by combining therewith a synthetic silicate powder.*

[Ex. G, col. 12, lines 5-12 (emphasis added).]

25. The Defendant's statement of alleged fact ¶ 25 is ambiguous at best because it does not make clear what combination it refers to, but Atochem disputes this statement if Defendant is suggesting that the Stapfer patent provides *any* motivation to combine a claimed reverse ester with a claimed organotin-sulfur compound or claimed organotin-halide compound. Stapfer's disclosure, and main teaching, of a synthetic silicate powder provides no motivation to combine an organotin-sulfur compound or an organotin-halogen compound with any reverse ester, let alone the claimed reverse ester. The organotin compounds disclosed in the Stapfer patent are unlike the organotin-borate compounds in the Gough patent. The sulfur compounds in the Stapfer patent [see Ex. G, col. 11] are very different from the claimed reverse esters. [See chemical glossary attached as Ex. AD, setting forth structures for representative thiocarboxylates, thioanhydrides sulfides, and reverse esters.] One of ordinary skill in the art would not have considered the organotin-borates of the Gough patent interchangeable with the claimed organotin compounds, nor would one have

considered Stapfer's sulfur compounds interchangeable with reverse esters or the claimed reverse esters for purposes of PVH stabilization. The Declaration by Dr. Foure explains why Stapfer's sulfur compounds are not in the same class as the claimed reverse esters. [See Ex. A ¶¶ 52-60.]

26. The claimed organotin-halides have been disclosed in the prior art, but not in combination with reverse esters, let alone the claimed reverse esters.

27. Contrary to the Defendant's conclusion, one of ordinary skill in the art would not have had a reasonable expectation of successfully stabilizing PVH with a combination of the claimed reverse esters and the claimed organotin-sulfur and organotin-halogen stabilizers. There is no motivation to combine the references in the manner proposed by Defendant. There can be no such reasonable expectation of success without sufficient motivation from the prior art. Furthermore, persons of ordinary skill in the PVH industry could not predict that all classes of organotin compounds would behave synergistically with all types of sulfur compounds; indeed, some such combinations even showed antisnergism. [See Ex. A ¶¶ 66, 115.]

28. Atochem disagrees with the Defendant's conclusion that the claims are prima facie obvious over the prior art. [See Atochem Statements of Genuine Issues ¶¶ 16-27.] The Declaration by Dr. Foure [Ex. A] explains why a person of ordinary skill in the art would not have thought it obvious to select the claimed compositions from the cited prior art references.

29. Atochem agrees that it submitted a Declaration executed by Michel Foure in 1982 to respond to the then-pending Examiner's obviousness rejection. Atochem does not agree that the PTO had, then or now, established a prima facie case of obviousness. The 1982 Declaration clearly sets forth probative data that demonstrates the superiority of the claimed invention. This Declaration presented

results for various combinations of 6 different organotin-sulfur or organotin-borate compounds with 16 different sulfur compounds. In total, 50 different combinations were tested, both within the scope of the pending claims and outside the scope of the claims for comparative purposes. In every test, the claimed reverse esters performed better than other combinations of sulfur compounds and organotin compounds under otherwise identical conditions.

30. Contrary to the Defendant's contention, the 1982 Foure Declaration was probative, clear and self-explanatory. The 1982 Foure Declaration provided data which unambiguously demonstrated the superiority of the claimed invention over the prior art. [See 1982 Declaration by Dr. Foure, Ex. P; Ex. A ¶¶ 109-137.] Because the Board admittedly did not understand the content and significance of the Declaration, Atochem is submitting the aforementioned supplemental Declaration by Dr. Foure [Ex. A]. In this declaration, Dr. Foure, among other things, further explains why his 1982 Declaration in fact showed the superior performance of the claimed invention.

31. Atochem disputes the alleged insufficiency of its explanation of the merits of the Rule 132 Declaration. The Declaration itself was part of the record before the Board and was self-explanatory and the data clearly demonstrated the superiority of the claimed invention. Atochem's appeal brief clearly and specifically directed the Board's attention to the comprehensive 1982 Foure Declaration.

32. Atochem disputes Defendant's statement of alleged fact ¶ 32. Like the Board's ruling, Defendant ignores the explicit and implicit explanations of the proved superior performance of the claimed invention over the prior art that Dr. Foure provided in the 1982 Foure Declaration itself. [See Atochem's Statement of Genuine Issues ¶¶ 30 and 31, *supra*.] Atochem alerted the Board to Atochem's nonobviousness evidence, which showed comparisons of the invention to compositions

in the prior art. By alerting the Board to the fact that it had before it evidence comparing compositions of the invention to those in the prior art in response to the obviousness rejection, Atochem was clearly asserting a typical response of superior results. The Declaration itself presented the data which demonstrated that superiority. The 1982 Declaration unquestionably speaks for itself. Significantly, Defendant does not contend that the data in fact fails to demonstrate the superiority of the tested claimed compositions over the tested prior art compositions.

In addition, Atochem's reliance principally on the 1982 Fourre Declaration itself rather than reiterating to the Board the details of it in Atochem's PTO brief on appeal was logical and prudent because the specific issue of rebutting the obviousness assertion with evidence of superior results was but one of numerous issues confronting Atochem at the time. Specifically, Atochem submitted a 36 page brief on appeal to the Board. Pages 1-8 were introductory; on pages 9-28 Atochem presented arguments to overcome other rejections not relevant here. Atochem prevailed on these arguments before the Board. [See Brief on Appeal, Ex. AB.] On pages 29-35, Atochem argued that the claimed invention was not obvious. Most of these arguments focused on the Board's alleged prima facie case of obviousness. In the event that these arguments did not persuade the Board, Atochem, on pages 34-35, referred the Board to an example in the specification and the 1982 Declaration as evidence of unexpected results. Those arguments and that data should have, in Atochem's opinion, overcome the obviousness rejection. Because the Board refused to reverse the Examiner, Atochem now takes the opportunity in this action under 35 U.S.C. § 145 to submit additional evidence in support of its arguments to overcome the sole remaining rejection.

33. Atochem disputes the implication that, as a matter of law, there is a separate burden of explaining the content and significance of declaration data that on its face is self-explanatory. In *this* case, in any event, the Board erroneously ignored the extensive explanation and data in the 1982 Foure Declaration itself in determining whether there was a sufficient explanation of the content and the significance of the declaration data. The Board should have been capable of understanding the import of the showing of superior performance of the claimed invention that Dr. Foure provided. [See Atochem's Statement of Genuine Issues ¶¶ 30-32, *supra*.] Moreover, Atochem will use the opportunity in this § 145 action to further explain to this Court the superiority of the claimed invention as it was shown in the 1982 Declaration.

34. As Atochem understands the Board's decision, the Board has taken the position that Gough's disclosure of organotin-borates and reverse esters represents the "closest prior art" to the claimed invention. Because the Gough disclosure cannot be modified to replace the organotin-borates, which are at the heart of Gough's invention, no matter how "close" the Gough patent is deemed to be, it does not render the Chenard and Mendelsohn application claims unpatentable. Moreover, Atochem is presenting additional data in this action which unquestionably demonstrates that the claimed invention is patentable over the Gough combination that the Board deemed "closest" prior art.

35. Atochem admits that the 1982 Declaration did not provide a specific comparison of a stabilizer composition within the scope of the claims of the '759 application with a stabilizer composition comprising a reverse ester and a Gough organotin-borate. Atochem is providing the suggested comparison in a Declaration by Dr. Bertelo which is submitted in support of Atochem's motion opposing summary judgment. [See Ex. B.] Dr. Bertelo's Declaration convincingly

demonstrates Atochem's position that the organotin-borate/thiol combinations are inferior stabilizers generally, and that the claimed invention is superior both to combinations of organotin-borate/thiols and to other combinations of organotin stabilizers and sulfur compounds that are not the claimed reverse esters.

36. Atochem disagrees with the Board's position that the probative value of the declaration data is not commensurate with the scope of the degree of protection sought by the claims. As stated in paragraph 30 above, the 1982 Declaration provided 50 different combinations of organotin compounds with various sulfur compounds. Each of the combinations with reverse esters showed better stabilization, in most cases significantly better stabilization, than other combinations outside the scope of the claimed invention. Atochem submits that this breadth of testing is commensurate with, and clearly supports, Atochem's claims to combinations of the claimed organotin compounds and the narrow class of claimed reverse esters. As mentioned above, Atochem is also using this action under § 145 to submit additional data in support of its claims. [See Ex. B, presenting new test results by Dr. Bertelo.] There is no particular quantity of test data that is prescribed by rule or case law. The data previously supplied by Atochem, and certainly with the additional data provided here, clearly establishes the error made by the PTO in sustaining the Examiner's rejection for obviousness of the claimed invention. There is no basis for the PTO to continue to rely on the Gough disclosure as a basis for rendering the Chenard and Mendelsohn invention obvious.

37. As stated in paragraphs 30 and 36 above, the 1982 Declaration provided 50 different combinations of organotin compounds with various sulfur compounds. Each of the combinations utilizing a claimed reverse ester showed better stabilization, in most cases significantly better

stabilization, than other combinations outside the scope of the claimed invention. In addition, the examples in the specification also show unexpected results for claimed combinations with both organotin-sulfur compounds and organotin-halogen compounds. Atochem submits that this data, which is explained in the Declaration of Dr. Foure [Ex. A], and the additional data it is presenting by Declaration of Dr. Bertelo [Ex. B] supports, and is commensurate with, Atochem's claims to combinations of the claimed organotin compounds and the narrow class of claimed reverse esters.

38. Atochem asked the Board to reconsider its decision affirming the Examiner's rejection for obviousness.

39. In its July 27, 1999 decision on reconsideration, the Board reaffirmed the Examiner's holding that the pending claims were obvious, but the Board did not state specifically that the Examiner had established a *prima facie* case of obviousness.

40. The Board *admitted* that the Gough patent does not teach in the background section that it was known in the art to use synergistic combinations of organic thiols and organotin-sulfur compounds, correcting an earlier mistake that it had made. Nevertheless, the Board stated that the Gough patent discloses that it was known in the art to use organic thiols and organotin mercaptides to inhibit or prevent discoloration of vinyl halide polymers. Atochem interprets this statement of the Board to mean that the Gough patent discloses that these compounds were used separately, not in combinations, as prior art stabilizers for PVH polymers. The only stabilizer combinations disclosed in Gough's background section are combinations of an organotin-sulfur compound with a thioanhydride, which is a sulfur compound unlike Gough's thiol compounds or the claimed reverse esters. [See Gough, Ex. F, col. 1, lines 50-59; chemical glossary at Ex. AD.] All of the compounds

in Gough's background section, whether used separately or in combination, are dismissed as unsatisfactory stabilizers for a number of reasons. [See Ex. F, col. 1, lines 59-66.] Thus Atochem disputes the Defendant's alleged statement of fact as to the extent it states, suggests, or implies that the Gough patent discloses it was known to combine organic sulfur compounds such as reverse esters with organotin compounds such as the claimed organotin compounds to inhibit or prevent discoloration of PVC.

41. Atochem disputes the Board's characterization of the Stapfer reference as disclosing that combinations of organotin-sulfur compounds and organic sulfur compounds produce synergistic results in stabilizing PVH. [See Atochem's Statement of Genuine Issues ¶¶ 24-25.] As explained in the Declaration by Dr. Foure, Stapfer expressly disclaims any teaching of how to select compounds from Stapfer's own disclosure for use with his invention of a silicate substrate. [See Ex. A, ¶ 59; Ex. G, col. 12, lines 5-12.] One of ordinary skill in the art would have understood Stapfer's statement at col. 3, lines 16-19, that its disclosure of over 1000 compounds, most of which contain tin, can be employed with synergistic results to be no more than an acknowledgment of possible synergy among various classes of stabilizers.

42. Atochem disputes the Board's conclusion that one of ordinary skill in the art would have had a reasonable expectation of obtaining a synergistic effect when utilizing Gough's thiol compounds and Stapfer's organotin-sulfur compounds. [See Atochem's Statement of Genuine Issues ¶¶ 25, 27.] The Board has provided no credible reason why one of ordinary skill in the art would have thought to extract and combine disparate elements of the two references. The Gough patent emphasizes that the organotin-borates are patentably distinct from other organotin stabilizers. [See Ex. AA,



discussed at ¶ 22, *supra*.] The Gough patent does not motivate someone to substitute the organotin-borate with a disparaged organotin-sulfur stabilizer like those in the Stapfer patent. Further, the Stapfer patent discloses classes of sulfur compounds that are very unlike Gough's thiol compounds, including reverse esters. [See Ex. AD, chemical glossary, describing thiocarboxylates, thioanhydrides, and sulfides.] The Board has impermissibly read the Stapfer patent as providing a motivation to combine *all* organotin compounds, even those that are not disclosed in Stapfer and are unlike those disclosed in Stapfer, with *all* sulfur-containing compounds, even those that are not disclosed in Stapfer and are unlike those disclosed in Stapfer. The Defendant's overly broad and improper standard is unsupported by Stapfer's own express disclaimer that it teaches nothing about how to select compounds suitable for Stapfer's invention. Stapfer's silicate substrate invention is directed to an entirely different aspect of stabilization than Gough's organotin-borate/thiol combinations. There is no intersection of common subject matter between the compounds which the Gough patent teaches are useful for Gough's invention and those that the Stapfer patent teaches are useful for Stapfer's invention.

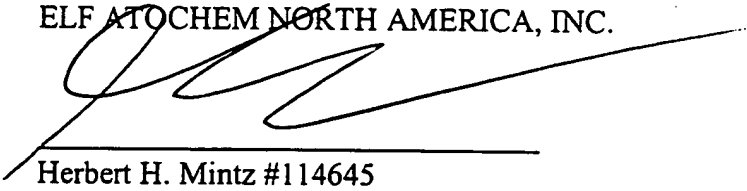
43. Atochem agrees that Wowk [Ex. L] and Schroeder [Ex. M] disclose the stabilization of PVH polymers with an organotin-halogen compound, but there is no suggestion in Wowk or Schroeder to combine these stabilizers with any compound that is *not* an organotin compound.

44. Atochem disputes the Defendant's characterization of Schroeder [Ex. M] as further disclosing that an organotin-halogen compound can be combined with other known stabilizers including organic sulfur-containing compounds. Rather, Schroeder teaches that its organotin-halogen compounds may be combined with other organotin compounds. This teaching of combinations of

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organotin compounds would not have motivated someone of ordinary skill in the art to combine a claimed organotin-halogen compound with a non-tin containing sulfur compound like the claimed reverse ester. Rather, one would have been taught to combine the two organotin compounds to increase the overall tin content of the stabilizer composition. Thus, the teaching of combinations of organotin compounds teaches away from combining any stabilizer disclosed in Schroeder with a non-tin compound.

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Attorneys for Plaintiff

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA**

Elf-Atochem North America, Inc.	)	
	)	
Plaintiff,	)	Civil Action No. 99-2559 (TPJ)
v.	)	
	)	
Q. Todd Dickinson	)	
	)	
Defendant.	)	
	)	

**DECLARATION OF MICHAEL R. MCGURK IN SUPPORT OF ATOCHEM'S  
OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT**

The undersigned, Michael R. McGurk, makes the following supplemental declaration under 28 U.S.C. § 1746 in support of Plaintiff's Opposition to Defendant's Motion for Summary Judgment. I am an attorney in the firm of Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., and I represent Elf Atochem North America, Inc. ("Atochem") in the above captioned matter. I hereby declare and state that:

1. I attach as Exhibit C hereto a true and correct copy of the *curriculum vitae* of Dr. Michel Foure.
2. I attach as Exhibit D hereto a true and correct copy of the specification of U.S. Application No. 07/870,759.
3. I attach as Exhibit E hereto a true and correct copy of the pending claims of Atochem's 07/870,759 application.
4. I attach as Exhibit F hereto a true and correct copy of Gough et al., U.S. Patent No. 3,928,285.

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5. I attach as Exhibit G hereto a true and correct copy of Stapfer et al., U.S. Patent No. 3,830,751.
6. I attach as Exhibit H hereto a true and correct copy of Hechenbleikner et al., U.S. Patent No. 3,167,527.
7. I attach as Exhibit I hereto a true and correct copy of Hechenbleikner et al., U.S. Patent No. 3,196,129.
8. I attach as Exhibit J hereto a true and correct copy of Weinberg et al., U.S. Patent No. 2,832,750.
9. I attach as Exhibit K hereto a true and correct copy of Kauder et al., U.S. Patent No. 3,817,915.
10. I attach as Exhibit L hereto a true and correct copy of Wowk, U.S. Patent No. 3,758,537.
11. I attach as Exhibit M hereto a true and correct copy of Schroeder, U.S. Patent No. 3,595,893.
12. I attach as Exhibit N hereto a true and correct copy of the Decision by the Board of Patent Appeals and Interferences ("the Board") of Feb. 23, 1999.
13. I attach as Exhibit O hereto a true and correct copy of the Board Decision on Rehearing dated July 27, 1999.
14. I attach as Exhibit P hereto a true and correct copy of the Declaration by Dr. Michel Foure dated Aug. 18, 1982.
15. I attach as Exhibit Q hereto a true and correct copy of the Results of Recent Testing by Dr. Christopher Bertelo: Tables and Representative Figures.

16. I attach as Exhibit R hereto a true and correct copy of pgs. 28-35 of Laboratory Notebook No. 4573 of Dr. Michel Foure.
17. I attach as Exhibit S hereto a true and correct copy of Stapfer et al., U.S. Patent No. 3,890,276.
18. I attach as Exhibit T hereto a true and correct copy of Stapfer et al., *Organic Stabilizers for PVC Processing*, SPE JOURNAL 26: 22-26 (1972).
19. I attach as Exhibit U hereto a true and correct copy of the *curriculum vitae* of Dr. Christopher A. Bertelo.
20. I attach as Exhibit V hereto a true and correct copy of the Color Spectrum Diagram showing white-black L scale, red-green a\* scale, and yellow-blue b\* scale.
21. I attach as Exhibit W hereto a true and correct copy of the Derivation of Whiteness Index and Yellowness Index Calculations for ColorQUEST Sphere Spectrocolorimeter.
22. I attach as Exhibit X hereto a true and correct copy of the Examiner's Answer to Applicants' Brief on Appeal (Aug. 11, 1994).
23. I attach as Exhibit Y hereto a true and correct copy of a collection of Office Actions indicating allowability by the Examiner during prosecution of related applications leading up to the present application.
24. I attach as Exhibit Z hereto a true and correct copy of an Office Action containing a statement by the Examiner that Gough teaches away from the claimed invention (dated Oct. 5, 1989).
25. I attach as Exhibit AA hereto a true and correct copy of a paper filed by Gough's representative during prosecution of the Gough patent which contains a statement of patentable distinction over the prior art (Jan. 10, 1975).

26. I attach as Exhibit AB hereto a true and correct copy of Applicants' Brief on Appeal to the Board (May 13, 1994).

27. I attach as Exhibit AC hereto a true and correct copy of *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 53 U.S.P.Q.2d 1580 (Fed. Cir. Jan. 27, 2000), *reh'g denied* (Fed. Cir. Mar. 6, 2000), *petition for cert. filed* (No. 99-1629, Apr. 10, 2000).

28. I declare under penalty of perjury that the foregoing is true and correct.

Date: May 5 2000

By: 

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Attorneys for Plaintiff,

ELF ATOCHEM NORTH AMERICA, INC.

Elf-Atochem North America, Inc.  
Plaintiff,  
v.  
Q. Todd Dickinson  
Defendant.

A	Declaration by Dr. Michel Fouré
B	Declaration by Dr. Christopher Bertelo
C	<i>Curriculum Vitae</i> of Dr. Michel Fouré
D	Specification of U.S. Application No. 07/870,759. Please note that four graphs are attached to the specification (these were not provided by the Defendant in Defendant's Exhibit 2).
E	Pending claims of Atochem's 07/870,759 application
F	Gough et al. U.S. Pat. No. 3,928,285
G	Stapfer et al. U.S. Pat. No. 3,830,751
H	Hechenbleikner et al. U.S. Pat. No. 3,167,527
I	Hechenbleikner et al. U.S. Pat. No. 3,196,129
J	Weinberg et al. U.S. Pat. No. 2,832,750
K	Kauder et al. U.S. Pat. No. 3,817,915
L	Wowk U.S. Pat. No. 3,758,537
M	Schroeder U.S. Pat. No. 3,595,893
N	Decision by the Board of Patent Appeals and Interferences ("the Board") of February 23, 1999
O	Board Decision on Rehearing dated July 27, 1999
P	Declaration by Dr. Michel Fouré submitted in support of patentability in 1982
Q	Results of Recent Testing by Dr. Christopher Bertelo: Tables and Representative Figures
R	Laboratory Notebook No. 4573 of Dr. Michel Fouré (pages 28-35)
S	Stapfer et al. U.S. Pat. No. 3,890,276
T	Stapfer et al., <i>Organic Stabilizers for PVC Processing</i> , SPE JOURNAL 26: 22-26 (1972)
U	<i>Curriculum Vitae</i> of Dr. Christopher Bertelo

- V Color Spectrum Diagram showing white-black L scale, red-green a\* scale, and yellow-blue b scale
- W Derivation of Whiteness Index and Yellowness Index Calculations for ColorQUEST Sphere Spectrocolorimeter (*see* page A-13)
- X Examiner's Answer to Applicants' Brief on Appeal (August 11, 1994)
- Y Collection of Office Actions indicating allowability by the Examiner during prosecution of related applications leading up to the present application
- Z Statement by Examiner that Gough Teaches Away From the Claimed Invention (Office Action dated October 5, 1989)
- AA Statement by Gough's representative during prosecution of the Gough patent which contains a statement of patentable distinction over the prior art (January 10, 1975)
- AB Applicants' Brief on Appeal to the Board (May 13, 1994)
- AC *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 53 U.S.P.Q.2d 1580 (Fed. Cir. Jan. 27, 2000), *reh'g denied* (Fed. Cir. Mar. 6, 2000), *petition for cert. filed* (No. 99-1629, Apr. 10, 2000).
- AD Chemical Glossary